DATING THE CREMATION IN A BICONICAL URN AT THE EARLY BRONZE AGE BARROW, HILL ROAD, WOULDHAM

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The central cremation from the Wouldham barrow now has an AMS radiocarbon calibrated date of 1750-1640 BC (at 1σ), providing independent support for Tomalin's suggestion that his Inception Series biconical urns were contemporary with the transition between Wessex I and II metalwork. The burial's wider context is also investigated.

In 1982, members of the Maidstone Area Archaeological Group excavated a ploughed-out barrow on the edge of the North Downs, overlooking the Medway at Wouldham. The barrow's central cremation of an adult female (?) in an inverted biconical urn (**Fig. 1**) was dated to the 'middle of the second millennium BC', based on ceramic parallels and a single ^{14}C date from a comparable site in Holland (Cruse and Harrison 1983, 89, 97). This cremation has now been directly dated.

Bio-apatite ^{14}C Determination

Research by Groningen Institute of Archaeology has established that bone consists of collagen fibres, in which particles of 'bio-apatite' are imbedded. This bio-apatite contains 1-2% of calcium carbonate, derived from bicarbonate ions in the blood. During the cremation process, all the collagen can disappear, together with a fair amount of the bicarbonate. However sufficient carbonate remains (*c.*0.1-0.2%) to be ^{14}C dated by AMS (Lanting and Brindley 1998; Lanting *et al.* 2001).

With the support of the British Museum, a sample from the central cremation at Hill Road, Wouldham, was submitted to Dr Jan Lanting at Groningen (who generously funded the determination), yielding the following duplicated results (Lanting and van der Plicht 2001/2, 156):

i) 3,435 +/- 40 BP, GrA – 16307
ii) 3,380 +/- 50 BP, GrA – 17377
Weighted Mean 3,415 +/- 35 BP

Fig. 1 Hill Road: Biconical Urn containing the cremation (height 38cm).

This mean AMS date has kindly been calibrated by Dr P. Ashmore, using the INTCAL 98 curve (Stuiver *et al.* 1998) and Bronk Ramsay 3.4 (Bronk Ramsay 1995) to give the following dates:

Cal BC	Probability	Cal BC	Probability
1,750 – 1,680	*60.8%*	*1,880 – 1,840*	*5.7%*
1,670 – 1,660	*3.9%*	*1,810 – 1,800*	*1.1%*
1,650 – 1,640	*3.5%*	*1,780 – 1,620*	*88.6%*
1,750 – 1,640	68.2%	1,880 – 1,620	95.4%

Chronological Implications

In his 1983 survey of British biconical urns, David Tomalin included the Wouldham vessel (numbered KB 10) amongst his 'Inception Series'

urns, whose geographical heartland was located between the Dorset-Hampshire seaboard and its Wessex hinterland. He suggested that such urns originated 'sometime in the late sixteenth century [^{14}C] BC and approximately coinciding with the opening of Wessex II' (Tomalin 1983, 211, 221, 462). He also noted that the British biconical urns continued to be used into the mid-fifteenth century [^{14}C] BC or later, a duration comparable with that of the Dutch Hilversum urns (*ibid.*, 192).

If we assume that our Hill Road urn was not an heirloom, we can thus attribute it to 1,750-1,640 Cal BC (becoming the first of his Inception Series urns to be directly dated). Compared with Needham's Bronze Age chronology (Needham S. 1996, 132), it becomes apparent (**Fig. 2**) that our cremation took place – as Tomalin forecast:

— when Wessex I (or Bush Barrow) metal types were being replaced by Wessex II (or Camerton-Snowshill) styles and

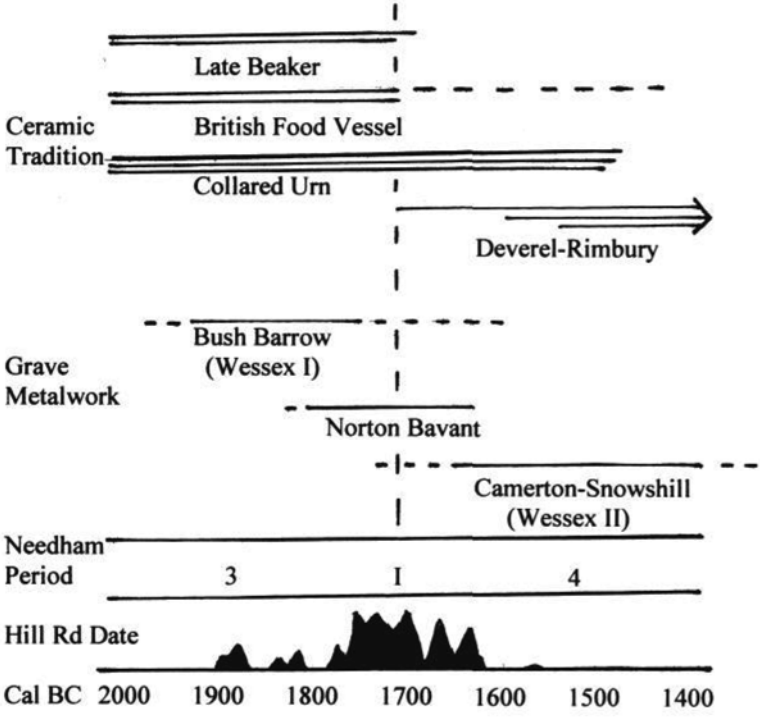

Fig. 2 Hill Road date vs simplified chronology for ceramics and metalwork assemblages in England and Wales (see Needham 1996, fig. 2).

— at a time when beakers and food vessels were being phased out as burial offerings, but prior to the general use of Deverel-Rimbury wares.

Cross-Channel Ceramic Connections

When the initial article was published in 1983, there were a range of possible interpretations. Butler had compared burials in biconical urns in southern England with those in Hilversum urns in Holland and concluded that an 'early group of British urn folk must have crossed the sea to land in Picardie and Flanders and must have spread in a northerly direction to the regions of Brabant and Utrecht' (Butler J.J. 1969, 65).

In his Ph.D thesis, Tomalin suggested a reversed direction for this invasion. Having noted that the early biconical urns used a temper with Continental parallels and the Continental distribution of Arreton axes (O'Connor 1980, 777), he proposed that an immigrant group had moved into Wessex from N. France/Belgium, who then were responsible for introduction of Arreton series axes back into their original homelands in 'the valley of the lower Seine, the Somme and the French/Belgian Schelde' (Tomalin 1983, 221, 254). However, this view that the Aisne-Somme region of northern France provided the common inspiration for both the English Inception Series biconical urns and for Hilversum urns in Holland (*ibid.*, 249) has received little subsequent support.

When Blanchet reviewed the French ceramic evidence in 1984, he concluded that British immigrants introduced Hilversum urns into Holland (citing, amongst others, the primary urn in Tumulus 1B at Toterfout-Halve Mijl, Veldoven, North Brabant), with subsequent groups from south-east England moving through the Pas de Calais to give rise to Eramecourt urns in northern France, at a time contemporary with the use in Holland of Drakenstein urns (as such urns were in secondary contexts in Tumulus 1B) (Blanchet 1984, 218).

Although the ceramic typology continues to evolve, Blanchet's relative chronology is still supported by recent developments:

— apatite re-determination of the cremation in the Hilversum urn at Tumulus 1B at Toterfout-Halve Mijl of 3,410 +/- 30 BP (GrA-15449, J. Lanting pers. com.) is an almost identical result to that at Wouldham, providing further evidence of the contemporaneity of Inception Series and early Hilversum urns.
— whilst Fokkens has accepted Theunissen's suggestion that Hilversum and Drakenstein ceramics are both aspects of the same cultural group [which he has divided into 'Hilversum ancien' (from *c.*1,800-1,600 Cal BC) and 'Hilversum récent' (from *c.*1,600-1,050 Cal BC) (Fokkens 2005, 2)], the contemporaneity of his Hilversum ancien with our Inception Series urns is maintained.

Recent researchers have been increasingly reluctant to accept cross-Channel invasion explanations, preferring instead to view the widespread similarities in terms of 'normal cultural contact' (Burgess 1980, 125). However, the intensity of these links may be understated. Alex Gibson has noted for such 'Handled Urns' that, 'with the exception of the pan-European Beaker phenomenon, this is the first time that there have been close ceramic parallels between Britain and the Continent since the Western Neolithic Carinated Bowls of 4,000 BC' (Gibson 2002, 101).

Haveman and Sheridan have also commented on the strong social and economic cross-Channel links with the southern Netherlands and northern Belgium from at early as 1800 BC, citing the movement of 'heirloom' Wessex elements, such as amber spacer plate necklace fragments and segmented beads of tin and faience, from southern Britain for use in the Netherlands (Haveman and Sheridan 2005/6, 129).

Similar evidence of close contacts with the Low Countries and northern France, led Peter Clark to suggest that, by *c.*1,575-1,520 Cal BC, different groups on either side of the Channel were bound together by close social (perhaps familial) and economic relationships into a single 'people' or 'tribe', termed 'the people of La Manche' (Clark P. 2004, 7).

Reconsidering the Hill Road barrow data

Since our original 1983 publication many new ideas have arisen which assist in its interpretation:

The Enclosing Penannular Ditch: Frances Lynch (pers. com. 1988) has supported the idea that the slot-like ditch profile at Hill Road could well indicate a timber kerb or palisade – as was found in barrows 40 and 45 at Brenig (Lynch 1993, 69, 85, 148). This is a plausible explanation, although as no post pits or packing were found at Wouldham, any such posts would have had to be subsequently removed, prior to being backfilled and sealed with the flint capping.

When Lynch and Waddell looked for parallels for the Brenig kerbs, they noted (*op. cit.*, 82) that 'Beaker barrows in Holland are regularly surrounded by such palisade kerbs', but that the Arreton Down barrow was the only other British example known to them. This parallel becomes stronger, as like Wouldham, the Arreton Down ditch was also penannular and deliberately backfilled before the barrow was raised, and, from its secondary cremations with Wessex II metalwork, could be broadly contemporary (Alexander and Ozanne 1960, 266, 271).

Pyecombe in West Sussex provides a further, more recently excavated example of a Beaker primary inhumation, subsequently

surrounded by a penannular ditch (with a NW entrance – as at Wouldham), in which more than one phase of a short-lived circle of timber posts was erected and then deliberately dismantled (Butler C., 1991, 24; Russell 2002, 81). The suggested use of the Wouldham ditch would therefore be consistent with EBA burial practices along the South Coast and into Holland.

More recently, Thomas has included Wouldham's potential palisade trench in his listing of 25 English and Welsh barrows with stake circles or narrow, slot-like surrounding ditches (Thomas N. 2005, 304). Brennan and Taylor (2003, 70-1) have also speculated that such stake circles functioned during a 'period of mourning or transition of the dead', prior to mound construction. In addition, they suggest that the inversion of a covering urn could transform it from the mundane to the sacred/extraordinary (cf. the central inverted tree-stump at 'Sea-henge'), an act which 'may be symbolic of the transformation of the deceased from one world into another'.

Central 4-Post Structure: Lynch and Waddell's review of these enigmatic 'mortuary structures' confirms that they mainly date to the second half of the Early Bronze Age, notes their presence in Holland in the North Brabant barrows and suggests that such structures were usually removed prior to the cremation finally being buried (Lynch 1993, 80).

Barrow Location: the siting of the ploughed-out barrow, on the edge of the North Downs, close to the Pilgrims' Way crossing of the Medway, is similar to that of Surrey barrows with comparable biconical urns at Guildford and Farnham, which also overlook river crossings of the Pilgrims' Way (Needham 1987, 103). Fieldwork on Salisbury Plain has also identified a similar tendency to locate Wessex EBA barrows in such riverine settings (McOmish *et al.*, 2002, 50; Woodward 2000, 73).

The exclusivity of Surrey EBA ceramics has been noted by Stuart Needham, with beakers and collared urns being concentrated in the Thames valley, whilst 'Wessex oriented' pottery was confined to the Chalk of the North Downs (Needham 1987, 103). A similar pattern has been discerned in Kent, with Champion noting that 'the rich Wessex burials are…confined to the chalklands of east Kent, a distribution which is in marked contrast to that of the other contemporary prestige items, the metalwork, which is limited to the valleys, especially the Medway, and the northern plain' (Champion, T. 1982, 43). Although Wouldham was lacking any prestigious grave goods, its location does nicely parallel these adjacent areas along the North Downs.

Tim Champion has highlighted the importance of a 'continuity of the significance of place' to the inhabitants of the mid-Medway

valley (2004, 54), citing the proximity of Bronze-Age burials (such as those at Hill Road) to the nearby possible Neolithic causewayed enclosure at Burham (Oswald *et al.*, 2001) and to the adjacent megalithic tombs. Also within a 3km radius of Burham are the deposition of gold MBA bracelets in the Medway at Aylesford and (much later) the LIA/Roman evidence for a temple on Bluebell Hill (Ashbee 2005, 151-2; Detsicas 1983, 145).

DISCUSSION

Changing patterns of cross-Channel activity during EBA: AMS dating has now pushed the use of sewn-plank boats back into the early second millennium Cal BC. The regional exchange networks, which previously had been largely contained within Britain, now expanded to include the Continent (Wright *et al.* 2001, p. 735). Tomalin has also noted that the movement of large vulnerable pots across the Channel to France in the later EBA implies that considerable stowage capacity now existed on deep water vessels (Tomalin 1995, 111). Thus the Dover sewn-plank boat, dated to ca 1,575-1,520 Cal BC, with its estimated carrying capacity of 1-3.5 tonnes (Roberts 2004, 206), is a potential vehicle, though its cross-Channel capability has yet to be proved.

From artefact distributions, McGrail has suggested that three main cross-Channel routes were used during the earlier Bronze Age: (a) St Malo – Poole Harbour, (b) Ostende – East Kent and (c) Mouth of the Seine – IOW/Hampshire coast (McGrail S. 1993, 200). See **Fig. 3**.

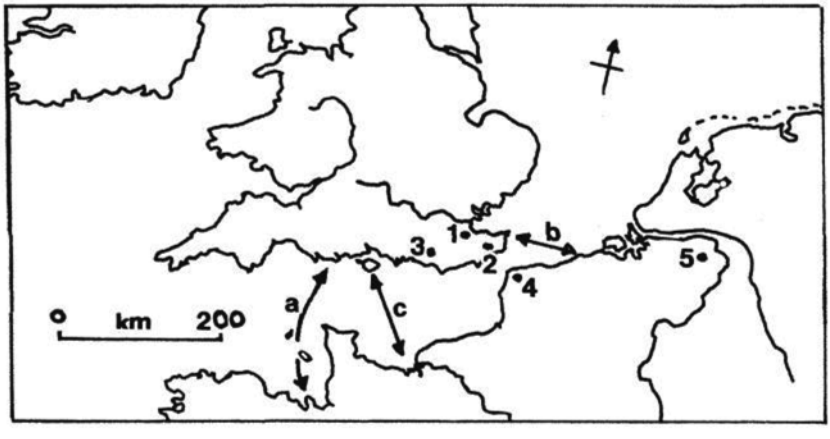

Fig. 3 Map showing sea-routes and sites discussed in the text.
Routes: a) St Malo - Poole; b) Ostende – E. Kent; c) Seine - IoW/Hants.
Sites: 1 Wouldham; 2 Dover; 3 Pyecombe; 4 Calais; 5 Toterfout-Halve Mijl.

During the early part of the EBA, contacts were strongest along route (a), driven by exchange connections between Wessex I élites and their counterparts in Britanny (Cunliffe B. 2001, 250-5). However, such voyages seem to have been sporadic and low key, resulting in the transfer of selected parts of the Armorican funerary package to southern Britain, with only a restricted exchange of exotic prestige goods (Needham 2000a, 184, Kristiansen and Larrson 2005, fig. 43).

In the later EBA, cross-Channel contacts continue along route (a), with Armorican vases à anses being imported into Wessex (Tomalin 1988, 218), but intensify along route (b), the Thames-Rhine linkage, which Needham sees as 'one of the major lines of supply from Europe' for imports of nickel-rich Continental metal into southern England. This contact facilitated the development of a flourishing industry in the lower Thames valley around 1,700-1,500 Cal BC, manufacturing Arreton metalwork and forging cross-Channel links which continue throughout the later Bronze Age (Needham 1987, 99).

Changing exchange systems: with bulk movements along the coasts and across to the Continent becoming increasingly reliable, the Wessex I élites, whose rich graves reflect the benefits gained from commanding the major overland trade routes along the chalk ridgeways (Cunliffe 2001, 250), could have found their central role in the British exchange system being progressively diminished.

During the second quarter of the second millennium Cal BC, communities living nearer the developing sea routes along the South Coast and Thames Estuary to the Continent, seem to have emerged as the main beneficiaries (Barrett and Bradley 1980, 63), doubtless assisted by the change of the Thames estuary from a freshwater river to a 'fully tidal and estuarine regime' by 1,550 Cal BC (Crocket *et al.* 2002, 209). Indeed, Perkins has recently argued that the seafaring community on Thanet acted as a 'Gateway Community with mastery of cross-Channel trade as its power base' to account for the richness of Bronze-Age material on the island (Perkins, D. 2006, 291).

Cultural changes: from the evidence of the metalwork and the major burial traditions, Needham (1996, 132) identifies the period around 1,700 Cal BC as being a time of significant cultural change, when the rich Bush Barrow series inhumation burials with jet, amber, faience and bronze grave goods of Period 3 were being phased out and replaced in Period 4:

— by new burial practices, whose richer burials were cremated,
— by the start of new pottery traditions such a Deverel-Rimbury,
— by a profusion of metalwork types and source ores .

Conclusions: the Hill Road burial at around 1,750-1,640 Cal BC (at 1σ), takes place at the time when the Wessex I élites' access to overland and

Armorican exchange systems may well have been challenged by the initial stirrings of the expanded cross-Channel exchange networks with the Low Countries and northern France, marking the start of Needham's Period 4.

The Wouldham burials were sited in an area of continuing local significance, not far from the long-distance overland trackway between the Wessex 'heartland' and the east Kent harbours (whose local importance at this time has been emphasised by the recent discovery of the Ringlemere Farm gold cup [Needham *et al.* 2006]).

Several aspects of the Hill Road burial have close parallels to practices developing in the Low Countries, whilst also reflecting other social and technological changes from southern England. It is thus apparent that, at this time, the burial traditions of the local Medway community incorporate a wide range of cultural influences.

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